Time: Thursdays 1:00 pm-3:50 pm with variable meeting times throughout the semester

Location: In-Person Flex
Zoom Link - [https://arizona.zoom.us/j/96028694732](https://arizona.zoom.us/j/96028694732)
Passcode 1122
If we end up meeting in person - MRB 102

Instructor(s) and Contact Information: Kristen Pogreba-Brown, PhD, MPH (Lead Instructor)
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Instructor Availability: By appointment. Please email to schedule a time to meet.

Office Hours: By appointment

Catalog Description: One Health focuses on the interconnectedness of health among human, animal and environmental systems. This course will explore current One Health applications and practice which are used by various disciplines. Students in this course will participate in a variety of in class and field experiences, as well as work individually and with multidisciplinary teams to address existing and emerging local and global public health challenges.

Course Description: One Health is an approach that focuses on the interconnectedness of health among human, animal and environmental systems and how professionals work within a multi-disciplinary team to address these issues. By its very nature, One Health utilizes interdisciplinary research approaches to address local and global public health problems, leveraging knowledge from multiple professional expertise areas. This course will focus on the applications and practice in which One Health approaches are used by
various disciplines. The students will work individually and within multidisciplinary teams. Activities will include classroom seminars, webinars, experiential work, and group activities.

**Course Prerequisites:** None

**Course Objectives and Expected Learning**

**Course Objectives:** The goal of this course is to enhance students’ ability to work within a multi-disciplinary team and apply both the theory and problem-solving skill sets inherent to One Health. As a participant in the course, students are expected to independently complete various activities available through multiple sources (e.g. seminars and webinars available through multiple venues), as well as participate in required individual and group activities (e.g. journal presentations, field experiences, and group research projects). All materials will be submitted at the end of the semester as a completed portfolio. For field experiences, students are expected to attend all activities to which they have committed and act as professional representatives of the College.

**Learning Outcomes:**

By the end of the semester, students should be able to:

- Describe practical application of One Health in a variety of different settings and to address several different problems or diseases;
- Demonstrate knowledge of best practices for working within a multi-disciplinary team;
- Critically assess peer reviewed journal articles;
- Assess scientific presentations and determine how existing research may cross over into One Health;
- Describe challenges involved in coordinating a One Health response;
- Practice a variety of field-based skill sets utilized within a One Health research project.

**One Health MPH Competencies Addressed**

(1) Articulate appropriate methods and data sources to investigate the interdependency and interconnectedness of humans, animals, and the environment in health and disease development.
   a. In the final ‘Wicked Problems’ project, students will be required to assess a One Health problem using multiple data sources and present the problem and proposed solution merging a variety of disciplines.
   b. In the seminar 'write-ups', students are expected to draw connections between the information being presented to other disciplines and areas of research.

(2) Develop strategies to address One Health challenges by engaging researchers across multiple disciplines and stakeholders with diverse perspectives, motivations, and economic incentives.
   a. Seminar 'write-ups' to show cross connections across campus and globally (see above)

(3) Identify and implement appropriate methods to integrate and analyze data on animals, humans, and the environment to identify and quantify One Health problems and/ or evaluate solutions.
   a. For the ‘Wicked Problems project’ groups must identify source of data, the feasibility of merging disparate data sources and describe ways these data could be using in conjunction with one another to address their chosen problem.

(4) Describe sentinel events in humans, animals, and the environment for detection of hazardous exposures and prevention of long-term negative effects.
   a. There are several lectures that address these issues, specifically one on Global Security. In addition, participation in Pandemic Flu IPE will also cover these concepts.

(5) Identify ecosystem changes and impacts that affect human, animal and planetary health.
a. There are several lectures and in-class activities that address these issues, specifically Climate change and Health and Antibiotic Resistance Panel (clinician, environmental microbiologist and agricultural researcher).

MPH/Program Competencies Covered

Systems Thinking
22. Apply systems thinking tools to a public health issue
   a. In the final ‘Wicked Problems’ project, students will be required to assess a One Health problem using systems thinking and present the problem and proposed solution merging a variety of disciplines.

Course Notes: None

Required Texts or Readings: Recommended only
One Health: The Theory and Practice of Integrated Health Approaches 1st Edition or
One Health: People, Animals, and the Environment 1st Edition

Other required readings will vary each semester based on relevant course topics and current events.

Required or Special Materials: None

Course Requirements:

1. Electronic Portfolio of One Health Experiences. The portfolio will reflect the majority of your grade and is comprised of several parts. Students are encouraged to begin working on their portfolio early in their graduate studies and may use material and assignments finished previous to the semester they are enrolled in for credit. The following are required items for the portfolio:

   A. Attendance and Reflection of 4 Seminars: Students are required to attend and document 4 seminars reflecting the One Health approach. Summaries should be approximately 2 pages each. The summary should describe the research presented and how it relates to One Health (either in actual practice or how it could be related if applied in a different manner). Examples of ‘well-written’ write-ups are provided on D2L.

   • Seminars available to students include, but are not limited to Epidemiology, Biostatistics, Environmental Health, Behavioral Health, College-wide (COPH), Animal and Comparative Biomedical Sciences, Nutritional Sciences, Water Resources and Research Center, Institute of the Environment, Climate and the Environment, etc. The schedules for each participating seminar will be posted on the course website and/or the UA One Health website (www.onehealth.arizona.edu), but students are encouraged to seek out other seminars or attend special presentations as they arise.

   • Webinars from sites such as CDC (https://www.cdc.gov/onehealth/), One Health Commission (https://www.onehealthcommission.org/) or EcoHealth Alliance (http://www.ecohealthalliance.org/) also qualify.

   • If you are unsure if a presentation would qualify, contact the instructor within 2 business days of the event.
B. Critique of One Health Journal Articles: The group discussions in One Health will discuss multiple papers around a single topic. One Health is inherently the intersection of many different disciplines so some of the papers you will read will be from only one or two of these perspectives while other papers may try to address these issues from a One Health perspective. The goals of our group discussions will be to highlight these various perspectives (what are the concerns, priorities, methods, strengths/limitations, key stakeholders, etc) and for the papers trying to address all three, also critique how well they do so.

- There will be 3-5 group discussions over the course of the semester (depending on the class size). You will be a group leader once during the semester (50 pts) and a participant for the other 4 (See the D2L document ‘Group Discussions in One Health 679’ for timelines, expectations of a group leader and a group participant.)
- Participation as a group member will be graded in part, on peer feedback. Each student will assign points to their group members based on their input and will have the opportunity to provide comments and feedback as well. See D2L for links and instructions.

C. Wicked Problem Project: What is a daunting public health issue that is best addressed using One Health principles? What are some innovative ways you can solve these problems? Students will work in teams throughout the semester to investigate the problem (literature review, interviewing experts in the field, field investigations or site visits, attending relevant seminars or webinars) and present a possible solution. The assignment will include a written proposal and a presentation. Further instruction of the requirements for a wicked problem will be posted on the D2L site.

D. One Health Data Project: One of the biggest challenges in One Health is DATA. While the goal in principle is to look at the intersection of humans, animals and the environment, data in these areas is often collected through a single lens, without thought as to how it may be merged or used in conjunction with other data. This project is made up of 3 parts:

I. Data sets – (1) Find 3 publicly available datasets, one in each pillar (Human, Animal, Environment). Submit a very short description of each, the source of the data and how to access it.
(2) Review the One Health Data library (link will be provided through UA Box). Choose at 3 other data sets and review.
(3) Finalize 3 data sets that you think could inform one another. Submit a short description of each.

II. Data Evaluation – Using the One Health datasets, evaluate the data and submit a 2 page description (strengths, limitations, data sources, data structure, how easily it could be merged with other data, what variable would you use to merge, etc) – this can be bulleted for each dataset

III. Data Research Questions – List 5 One Health research questions you could answer with your datasets. What problem would being able to answer these question address? For each question, what key data are you missing if any? For your FAVORITE question, outline how you would do the analyses. What variables could you use to merge the data? What data would you ideally have that may not be available now? How could you collect that data if need be?

Due dates for all assignments will be provided on the course schedule. Late assignments will be docked 10 points per day.

**Attendance and Class Participation.** Regular attendance is expected. The standing meeting for the course will be set, although the class may meet irregularly (for example 2 weeks on and then 2 weeks off) depending on the time commitments needed for field experiences and group project work. There will be several presentations given throughout the semester by other students, guest lectures from faculty across campus and visiting speakers from industry or government. In addition, students are expected to complete any pre-class readings or assignments and come prepared to participate in a discussion of the topics.
Grading Scale/Student Evaluation and Policies:

Electronic Portfolio = 700 points
Seminar reviews = **100 points** (25 points each) – Due Sept 24, Oct 29, Nov 19 and Dec 10
ID Group Presentation = **50 points** (40 pts for presentation and 10pts for ID Review)

Wicked Problem = **350 points**
- 25 pts for outline – Due Sept 24
- 25 pts for peer review – Due
- 50pts draft – Due Nov 20
- 100pts presentation – Dec 3
- 150pts Final written proposal – Due Dec 13

Data Project = **250 points**
- Data sets homework – 50pts – Due Sept 10
- Data Evaluation – 75 pts – Due Sept 24
- Data Research Questions – 125pts – Due October 15

Class Participation = 300 points
Journal Article Lead = **80 points** (1x GROUP DISCUSSION – 20 pts from instructor & 60 pts from peer review)
Discussion questions & participation for journal talks = **120 points** (40pts x 3 DISCUSSIONS as a group member)
Participation in other discussions or activities = **50 points**
Pre-class activity checks = **50 pts**

*Note – there are no quizzes or tests for this course. There is no final exam. All course work is participatory in nature or written assignments.

Total Points = **1000**

A = 895-1000
B = 795-894
C = 695-794
D = 595-694
E = under 595

Requests for incompletes (I) and withdrawal (W) must be made in accordance with University policies
University policy regarding grades and grading systems is available at: [http://catalog.arizona.edu/policy-type/grade-policies](http://catalog.arizona.edu/policy-type/grade-policies)

Absence and Class Attendance/Participation:

In-person and Online courses: Students will be expected to attend all course sessions. 3 or more unexcused absences from in-class sessions will lead to an automatic drop in one letter grade. Other absences or lack of participation (i.e. never or rarely participating in group discussions) will result in points lost from the 100 pts for participation as deemed by the instructor. Classes will be scheduled on a dynamic calendar (ie the class may not meet at the same time each week). *Students will be responsible for checking the course schedule and posts on D2L to ensure they are aware of when the
course meets. Students who have a conflict with any of the course times must inform the instructor as soon as possible to make any necessary arrangements.

The UA policy regarding absences for any sincerely held religious belief, observance or practice will be accommodated where reasonable, http://policy.arizona.edu/human-resources/religious-accommodation-policy.

Absences pre-approved by the UA Dean of Students (or Dean Designee) will be honored, http://deanofstudents.arizona.edu/

Course Schedule: TBD – will vary each semester

Communications: You are responsible for reading emails sent to your UA account from your instructor and the announcements that are placed on the course web site. Information about readings, news events, your grades, assignments and other course related topics will be communicated to you with these electronic methods. The official policy can be found at: https://www.registrar.arizona.edu/personal-information/official-student-email-policy-use-email-official-correspondence-students

Disability Accommodations:
It is the University’s goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let me know immediately, so that we can discuss options. You are also welcome to contact the Disability Resources (520-621-3268) to establish reasonable accommodations (as it is very important that you be registered with the DRC). For additional information on Disability Resources and reasonable accommodations, please visit http://drc.arizona.edu/students

Code of Academic Integrity
Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercise must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity, available through the office of the UA Dean Students: http://deanofstudents.arizona.edu/policies-and-codes/code-academic-integrity

Classroom Behavior: (Statement of expected behavior and respectful exchange of ideas:
Present policies to foster a positive learning environment, including use of cell phones, mobile devices, etc.). Students are expected to be familiar with the UA Policy on Disruptive Student Behavior in an Instructional Setting found at: http://policy.arizona.edu/education-and-student-affairs/disruptive-behavior-instructional-setting

Threatening Behavior Policy: The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to one’s self, http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students

Nondiscrimination and Anti-harassment Policy:
The University of Arizona is committed to creating and maintaining an environment free of discrimination, http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy

UA Smoking and Tobacco Policy:
The purpose of this Policy is to establish the University of Arizona’s (University) commitment to protect the health of University faculty, staff, students, and visitors on its campuses and in its vehicles, http://policy.arizona.edu/ethics-and-conduct/smoking-and-tobacco-policy
**Syllabus Changes:** Information contained in the course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor.